

## **Appendix G**

### **Environmental Justice Analysis**

#### **G.1 INTRODUCTION**

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs Federal agencies to identify and address, as appropriate, disproportionately high and adverse health or environmental effects of their programs, policies, and activities on minority populations and low-income populations.

The Council on Environmental Quality (CEQ) has oversight responsibility for documentation prepared in compliance with the National Environmental Policy Act (NEPA). In December 1997, the Council released its guidance on environmental justice under NEPA (CEQ 1997). In addition, the Office of Management and Budget (OMB) issued its *Guidance on Aggregation and Allocation of Data on Race for Use in Civil Rights Monitoring and Enforcement* in March 2000 (OMB 2000). Guidelines adopted by the CEQ and OMB were used as a basis for the analysis of environmental justice contained in the *Mercury Management Environmental Impact Statement* (MM EIS).

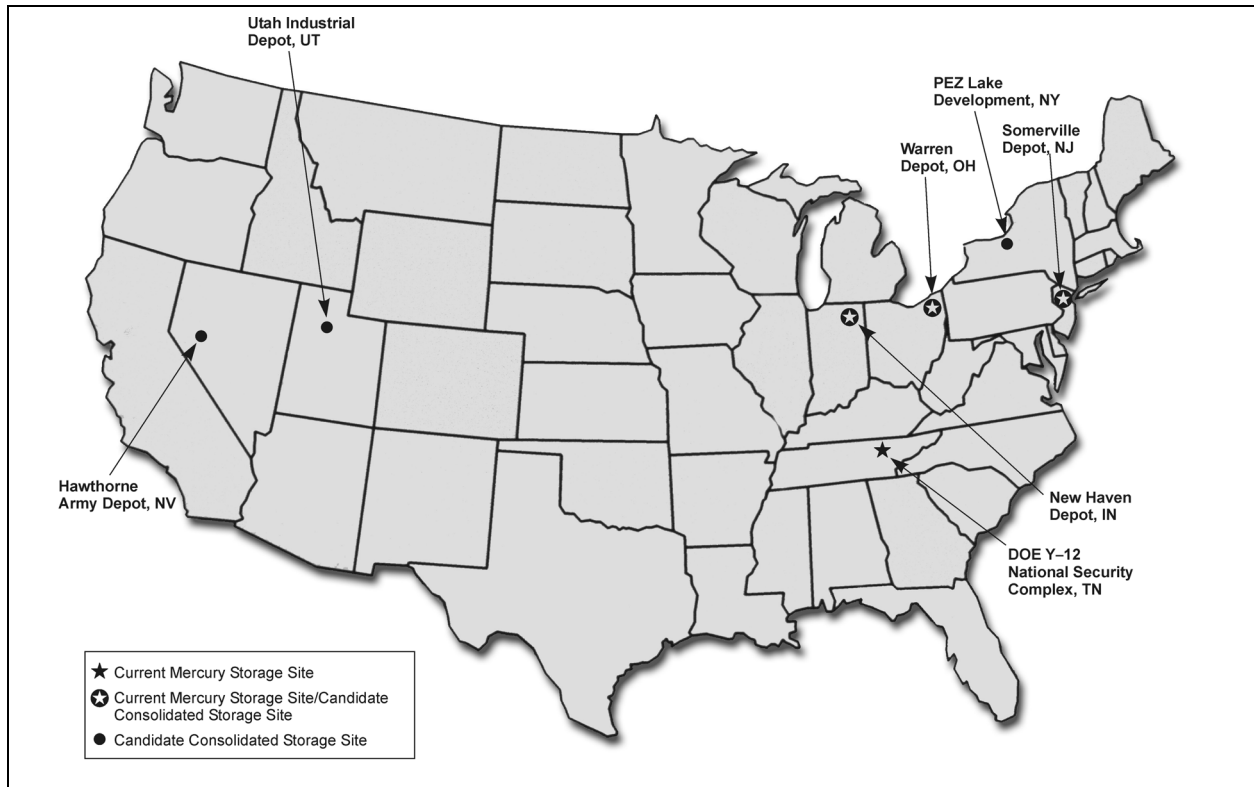
This appendix provides an assessment of the potential for disproportionately high and adverse human health or environmental effects on minority and low-income populations that could result from implementation of the alternatives described in Chapter 2, Alternatives for the Management of Mercury, of the MM EIS. The Defense National Stockpile Center's (DNSC's) current inventory of elemental mercury is stored at the four locations shown in Figure G-1: New Haven Depot, Indiana; Somerville Depot, New Jersey; Warren Depot, Ohio; and the U.S. Department of Energy's Y-12 National Security Complex (Y-12), Oak Ridge Reservation, Tennessee. With the exception of Y-12, these sites are candidates for consolidated storage under Alternative 2, Consolidated Storage. Other candidate sites for consolidated storage of DNSC's mercury inventory are the Hawthorne Army Depot, Mineral County, Nevada; PEZ Lake Development on the Seneca Army Depot, Seneca County, New York; and the Utah Industrial Depot on the Tooele Army Depot, Tooele County, Utah. Section G.6 discusses the environmental effects on minority populations and low-income populations residing in areas potentially affected by implementation of one or more of the alternatives.

#### **G.2 DEFINITIONS**

##### **G.2.1 Minority Individuals and Populations**

The following definitions of minority individuals and population are used in this analysis of environmental justice:

- **Minority individuals**—Individuals who are members of the following population groups: Hispanic or Latino, American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, multiracial minority (two or more races, at least one of which is a minority race under CEQ guidelines). This definition is similar to that given in the CEQ's environmental justice guidance (CEQ 1997), except that it has been modified to reflect Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity published by the OMB. These revisions were adopted and used by the U.S. Bureau of the Census in collecting data for the 2000 census. When data from the 1990 census are used, a minority individual will be defined as someone self-identified as: Hispanic; American Indian, Eskimo, or Aleut; Asian or Pacific Islander; or Black. As discussed below, racial and ethnic data from the 1990 census cannot be directly compared with that from the 2000 census.



**Figure G-1. Locations of Current Mercury Storage Sites and Non-DNSC Candidate Consolidated Storage Sites**

The OMB recommends that persons self-identified as multiracial should be counted as a minority individual if at least one of the races is a minority race (OMB 2000). During the 2000 census, approximately 2 percent of the National population identified themselves as members of more than one race (Grieco and Cassidy 2001). Approximately two-thirds of those designated themselves as members of at least one minority race.

- Minority population**—Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent, or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. In identifying minority communities, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a geographically dispersed and transient set of individuals (such as migrant workers or American Indian/Alaska Native), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as to not artificially dilute or inflate the affected minority population. A minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds.

In the discussions of environmental justice in the MM EIS, persons self-designated as Hispanic or Latino are included in the Hispanic or Latino population, regardless of race. For example, the Asian population is composed of persons self-designated as Asian and not of Hispanic or Latino origin. Asians who designated themselves as having Hispanic or Latino origins are included in the Hispanic or Latino population. Data for the analysis of minority populations in 1990 were extracted from Table P012 of

Summary Tape File 3 (DOC 1992). Data for the analysis of minority populations in the year 2000 were extracted from Summary File 1 and Tiger/Line Files available at the Census Bureau's web site ([www.census.gov](http://www.census.gov)).

### **G.2.2 Low-Income Populations and Individuals**

Executive Order 12898 specifically addresses disproportionately high and adverse effects on low-income populations. CEQ recommends that poverty thresholds be used to identify low-income individuals.

The following definition of low-income population was used in this analysis:

- **Low-income population**—Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the U.S. Bureau of the Census' Current Population Reports, Series P-60 on Income and Poverty. In identifying low-income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.

Data for the analysis of low-income populations for the year 2000 were extracted from Summary File 3 available at the U.S. Census Bureau's web site ([www.census.gov](http://www.census.gov)) (DOC 2002).

### **G.2.3 Disproportionately High and Adverse Human Health Effects**

Adverse health effects are measured in risks and rates that could result in latent cancer fatalities, as well as other fatal or nonfatal adverse impacts to human health. Disproportionately high and adverse human health effects occur when the risk or rate of exposure to an environmental hazard for a minority population or low-income population is significant and exceeds the risk of exposure rate for the general population or for another appropriate comparison group (CEQ 1997).

### **G.2.4 Disproportionately High and Adverse Human Environmental Effects**

A disproportionately high environmental impact refers to an impact or risk of an impact in a low-income or minority community that is significant and exceeds the environmental impact on the larger community. An adverse environmental impact is an impact that is determined to be both harmful and significant. In assessing cultural and aesthetic environmental impacts, impacts that uniquely affect geographically dislocated or dispersed or minority low-income populations are considered (CEQ 1997).

Potentially affected areas examined in the MM EIS include areas surrounding the candidate storage locations or surrounding accidents involving the mercury inventory. Potentially affected areas used in the analysis of environmental justice are the same as those used in the analysis of human health effects described in Chapter 4, Environmental Consequences.

## **G.3 METHODOLOGY**

For the purposes of enumeration and analysis, the Census Bureau has defined a variety of areal units (DOC 1992). Areal units of concern in this document include (in order of increasing spatial resolution) states, counties, census tracts, block groups, and blocks. The "block" is the smallest of these entities and offers the finest spatial resolution. This term refers to a relatively small geographical area bounded on all sides by visible features such as streets and streams or by invisible boundaries such as city limits and property lines. As shown in the inset, during the 2000 census, the Census Bureau portioned the United States and its territories into more than 8 million blocks. While blocks offer the finest spatial

resolution, economic data required for the identification of low-income populations are not available at the block-level of spatial resolution. In the analysis of minority populations below, blocks are used as the basic areal unit, while the analysis of low-income populations uses block group spatial resolution.

Minority and nonminority populations living within potentially affected areas in 2040 were estimated under the following assumption: for each potentially affected county, the increase or decrease in county population per decade would remain identical to the increase or decrease observed in county population from 1990 to 2000.

Geographic Unit	2000 Census	1990 Census
State	50	50
County	3,232	3,248
Census tract	66,304	62,303
Block group	211,267	229,192
Block	8,262,363	7,017,427

## G.4 ENVIRONMENTAL JUSTICE ANALYSIS

The analysis of environmental justice concerns was based on an assessment of the impacts reported in Chapter 4 of the MM EIS. This analysis was performed to identify any disproportionately high and adverse human health or environmental impacts on minority or low-income populations surrounding the candidate storage sites. Demographic information obtained from the 1990 census and 2000 census was used to identify the minority populations and low-income communities in the zone of potential impact surrounding the sites (DOC 1992, 2001, 2002).

## G.5 CANDIDATE STORAGE SITES

### G.5.1 New Haven Depot

The New Haven Depot is a 268-acre site located in Allen County, Indiana at latitude 41° 4' 36" north and longitude 84° 56' 20" west. It is slightly more than 7 mi (11.3 km) west of the border between Indiana and Ohio. The New Haven Depot is an active storage depot for mercury and other materials, and it is a candidate location for continued or consolidated mercury storage under the No Action and Consolidated Storage Alternatives.

Figure G-2 shows populations residing in Allen County as reported in the decennial census of 2000. In this figure, lightly shaded bars show populations in 1990, while the darker bars show those in 2000. In the decade between 1990 and 2000, the percentage minority population in Allen County increased from approximately 13 percent to 18 percent. The 2000 census found that Blacks or African Americans and Hispanics comprised slightly over 80 percent of the total minority population. Persons who declared that they are multiracial and not Hispanic are included in the minority population

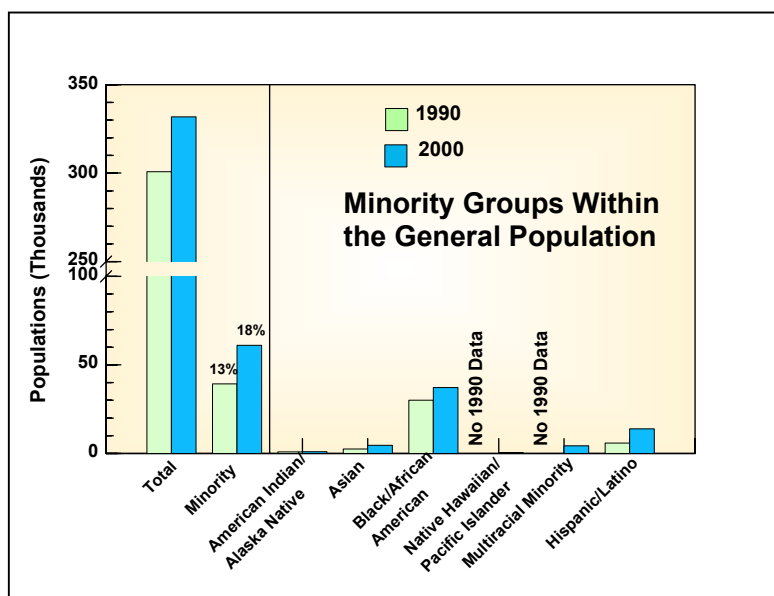


Figure G-2. Populations Residing in Allen County, Indiana, in 1990 and 2000

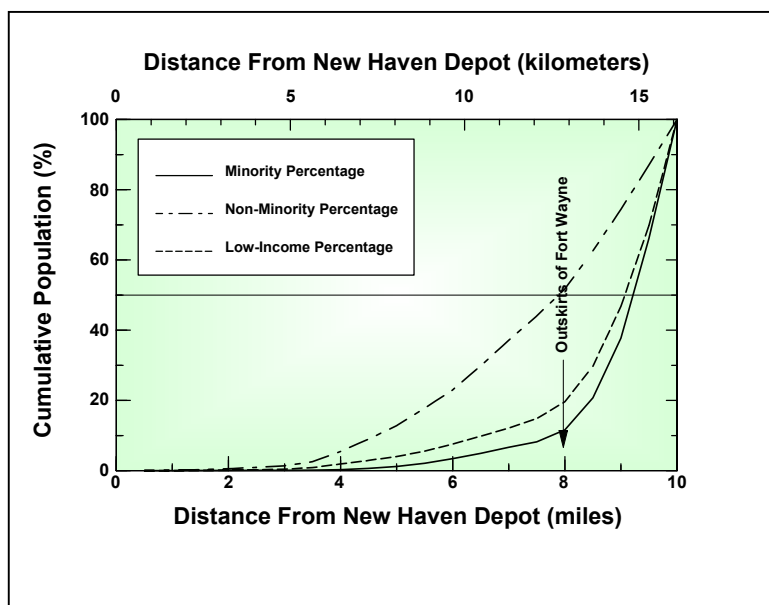
shown in Figure G-2 provided they declared at least one minority race (OMB 2001). Multiracial minority persons comprised approximately 8 percent of the total minority population in Allen County.

The 2000 census was the first decennial census in which multi-racial selections were counted. There is no data for this category available from the 1990 census. Also, during the 1990 census, Asian and Pacific Islander designations were placed together in a single category, whereas during the 2000 census, Native Hawaiians and Other Pacific Islanders were counted separately from Asian respondents. Therefore, direct comparison of 1990 census data and 2000 census data for these categories is not possible.

The minority population residing in Allen County is reasonably representative of that for the State of Indiana as a whole. Minority residents of the State of Indiana comprised approximately 14 percent of the total resident population. Black or African American and Hispanic residents of the State of Indiana comprised approximately 84 percent of the total minority residents of the state. State residents who declared that they are multiracial and not Hispanic comprised approximately 7 percent of the total minority population.

Assuming that the rate of increase for the minority population of Allen County observed between 1990 and 2000 is representative of the increase per decade for the decades following 2000, the minority population of Allen County is expected to increase to approximately 149,000 persons by the year 2040. The total population is projected to increase to approximately 456,000 persons. Thus by the year 2040, minorities can be expected to comprise nearly one-third of the total population.

Approximately 34,900 minority individuals and 14,700 low-income persons lived within 10 mi (16 km) of the New Haven Depot in 2000. The nonminority population residing in the same area was approximately 149,000 persons. Figure G-3 shows the cumulative percentage of these populations residing at a given distance from the New Haven depot in 1990. For example, 50 percent of the total nonminority population of 149,000 persons lived less than 8 mi (13 km) from the New Haven Depot. However, minority and low-income populations living within 10 mi (16 km) of the New Haven Depot are concentrated in the Fort Wayne Area.

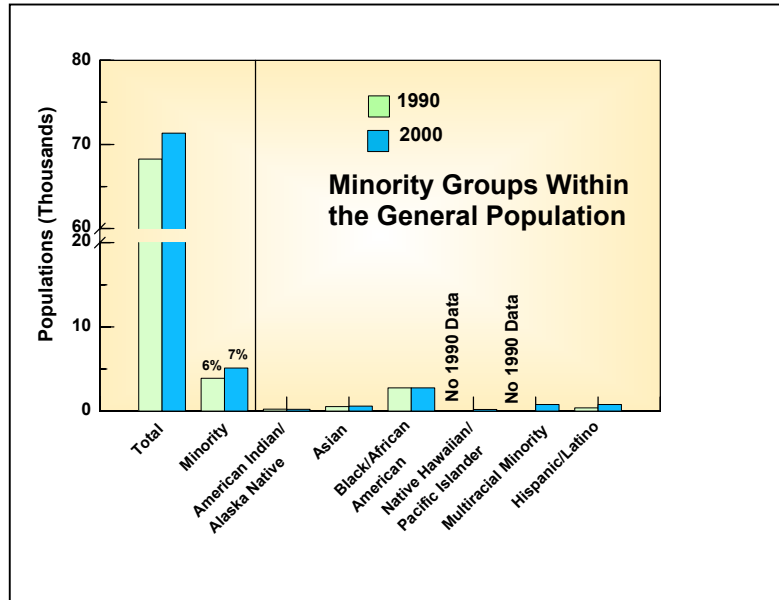


**Figure G-3. Populations Living Within 10 Miles of the New Haven Depot in 2000**

### G.5.2 Y-12

Y-12 is a facility within the Department of Energy's Oak Ridge Reservation in Tennessee (see Figure G-1). It is located in Anderson County, Tennessee, at latitude 35° 59' 8.408" north and longitude 84° 15' 38.491" west. Y-12 is approximately 18 mi (29 km) west of the city of Knoxville. It is an active storage site for mercury and other materials, and it is a candidate location for continued mercury storage under the No Action Alternative.

Figure G-4 shows populations residing in Anderson County as reported in the decennial census of 2000. In this figure, lightly shaded bars show populations in 1990, while the darker bars show those in 2000. In the decade between 1990 and 2000, the total population of Anderson County increased by approximately 4.5 percent, while the minority population increased by nearly 32 percent. The 2000 census found that Black or African American residents of the county comprised approximately one-half of the total minority population. Multiracial minorities comprised approximately 21 percent of Anderson's total minority population in 2000. The direct comparison of census 2000 data with census 1990 data is discussed in Section G.5.1.



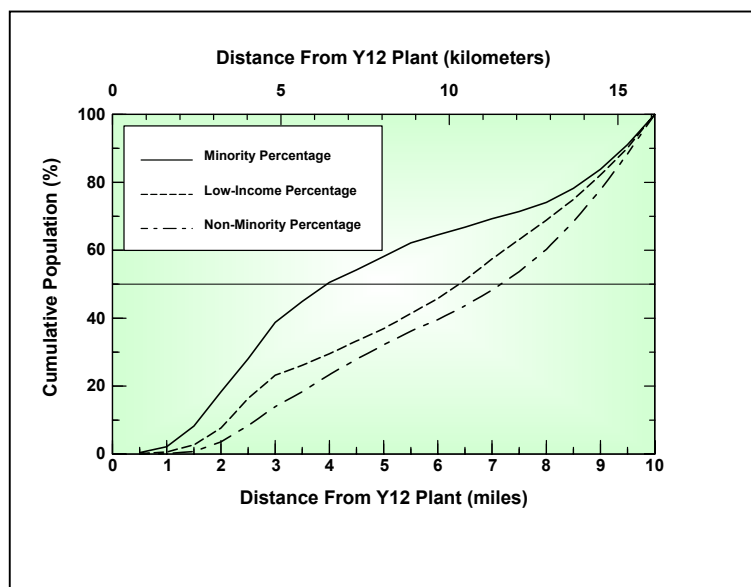
**Figure G-4. Populations Residing in Anderson County, Tennessee, in 1990 and 2000**

The minority population of Anderson County is not representative of that for the State of Tennessee as a whole. Minority residents of the State of Tennessee comprised approximately 21 percent of the total resident population in 2000. Black or African American residents of the State of Tennessee comprised nearly 80 percent of the total minority residents of the state. Approximately 5 percent of the total minority population was composed of multiracial minorities.

Assuming that the rate of increase for the minority population of Anderson County observed between 1990 and 2000 is representative of the increase per decade for the decades following 2000, the minority population of Allen County is expected to increase to approximately 10,000 persons by the year 2040. The total population is projected to increase to approximately 84,000 persons. Thus by the year 2040, minorities can be expected to comprise nearly one-eighth of the total population.

Approximately 7,663 minority individuals and 7,314 low-income persons lived within 10 mi (16 km) of the Y-12 in 2000. The nonminority population residing in the same area was approximately 95,553 persons.

Figure G-5 shows the cumulative percentage of these populations residing at a given distance from Y-12. For example, 50 percent of the total minority population of 7,663 lived within approximately 4 mi (6.4 km) of Y-12, and 50 percent of the nonminority population of



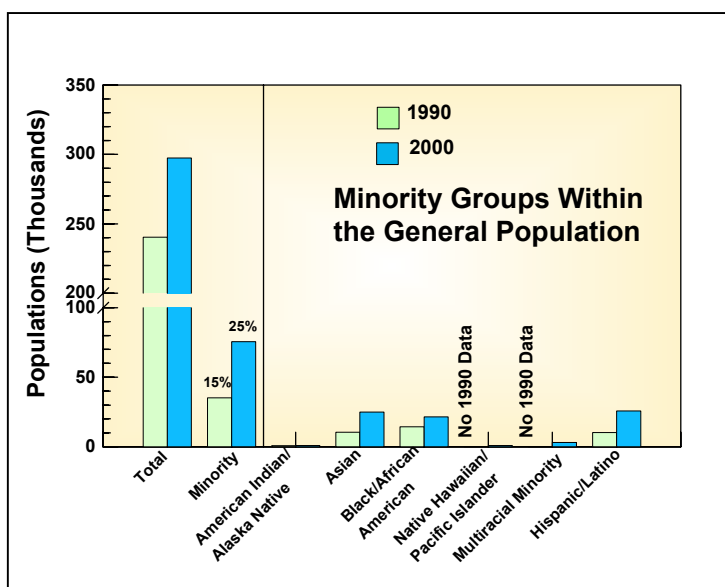
**Figure G-5. Populations Living Within 10 Miles of Y-12**

95,553 lived within approximately 7 mi (11.3 km) of Y-12. Although the total minority population is relatively small in comparison to the total nonminority population, a noticeably larger percentage of the minority population lives at a given distance within 10 mi (16 km) of Y-12 when compared to corresponding percentages for the low-income and nonminority populations. The minority community of Scarboro is approximately 2 mi (3.2 km) from Y-12.

### G.5.3 Somerville Depot

The Somerville Depot is located in Somerset County, New Jersey, at latitude 40° 32' 15" north and longitude 74° 38' 00" west (see Figure G-1). It is approximately 2.5 mi (4.0 km) south of Somerville, New Jersey. The Somerville Depot is an active storage depot for mercury and other materials, and it is a candidate location for continued or consolidated mercury storage under the No Action and Consolidated Storage Alternatives.

Figure G-6 shows populations residing in Somerset County as reported in the decennial census of 2000. In this figure, lightly shaded bars show populations in 1990, while the darker bars show those in 2000. In the decade between 1990 and 2000, the percentage minority population in Somerset County increased from approximately 15 percent to 25 percent. The 2000 census found that Blacks or African Americans, Asians, and Hispanics comprised approximately 95 percent of the total minority population residing in Somerset County. Persons who declared that they are multiracial and not Hispanic are included in the minority population shown in Figure G-6. They comprised approximately 5 percent of the total minority population.



**Figure G-6. Populations Residing in Somerset County, New Jersey, in 1990 and 2000**

Assuming that the rate of increase for the minority population of Somerset County observed between 1990 and 2000 is representative of the increase per decade for the decades following 2000, the minority population of Somerset County is expected to increase to approximately 237,000 persons by the year 2040. The total population is projected to increase to approximately 288,000 persons. Thus by the year 2040, minorities can be expected to comprise approximately 45 percent of the total population.

The minority population of Somerset County is reasonably representative of that for the State of New Jersey as a whole. According to the results of the year 2000 census, minority residents of the State of New Jersey comprised approximately 34 percent of the total resident population. Black or African American, Asian, and Hispanic or Latino residents of the State of New Jersey comprised approximately 95 percent of the total minority residents of the state. Multiracial minorities comprised approximately 5 percent of the total minority population.



Approximately 102,061 minority individuals and 17,275 low-income persons lived within 10 mi (16 km) of the Somerville Depot in 2000. The nonminority population residing in the same area was approximately 356,002 persons. Figure G-7 shows the cumulative percentage of these populations residing at a given distance from the Somerville Depot. For example, Figure G-7 indicates that 50 percent of the total nonminority population lived within 7 mi (11.3 km) of the Somerville Depot, while approximately 50 percent of the minority and low-income populations were concentrated in Somerset and New Brunswick.

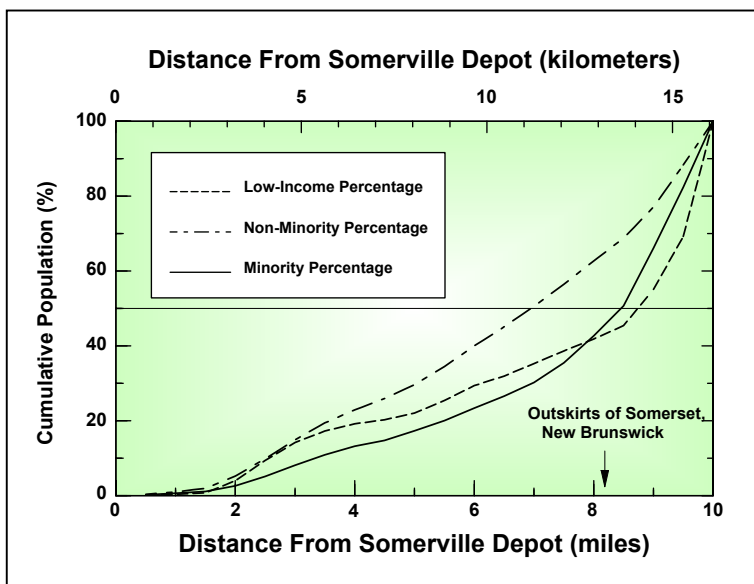


Figure G-7. Populations Living Within 10 Miles of the Somerville Depot in 2000

#### G.5.4 Warren Depot

The Warren Depot is located in Trumbull County, Ohio, at latitude 41° 11' 43" north and longitude 80° 47' 51" west. It is approximately 15 mi (24 km) west of the border separating northeastern Ohio and Pennsylvania (see Figure G-1). The Warren Depot is an active storage depot for mercury and other materials, and it is a candidate location for continued or consolidated mercury storage under the No Action and Consolidated Storage Alternatives.

Figure G-8 shows populations residing in Trumbull County as reported in the decennial census of 2000. In this figure, lightly shaded bars show populations in 1990, while the darker bars show those in 2000. In the decade between 1990 and 2000, the total population of Trumbull County decreased by approximately 1 percent, while the minority population increased by nearly 19 percent. The 2000 census found that Blacks residents of the county comprised approximately 84 percent of the total minority population. Approximately 11 percent of Trumbull's total minority population was composed of multiracial persons.

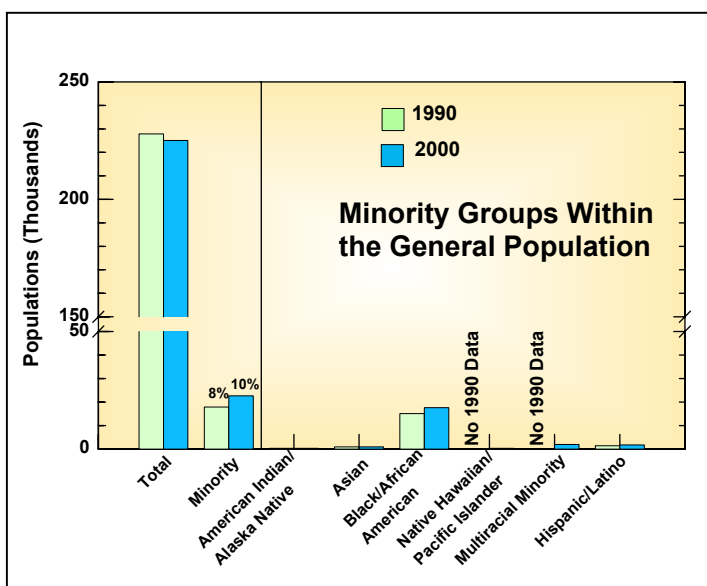


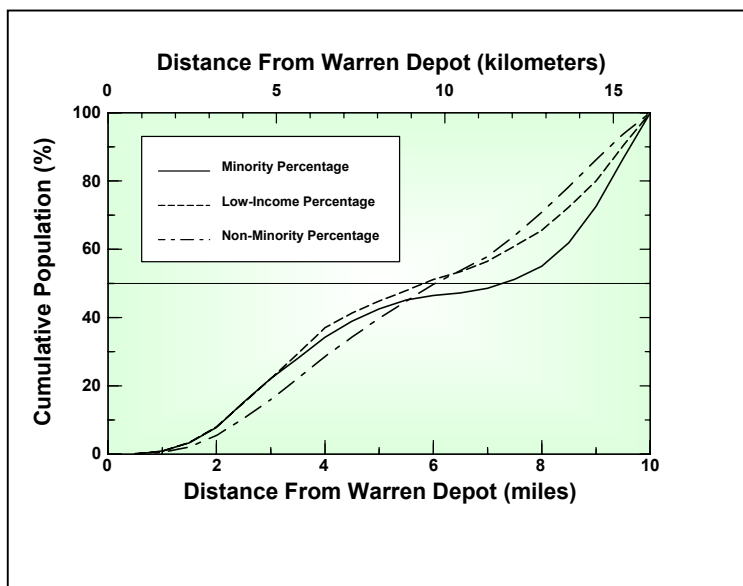
Figure G-8. Populations Living in Trumbull County, Ohio, in 1990 and 2000

The minority population of Trumbull County is not representative of that for the State of Ohio as a whole. Minority residents of the State of Ohio comprised approximately 16 percent of the total resident population. Black residents of the State of Ohio comprised approximately 72 percent of the total minority residents of the state. Nine percent of the total minority population was composed of multiracial persons.



Assuming that the rate of increase for the minority population of Trumbull County observed between 1990 and 2000 is representative of the increase per decade for the decades following 2000, the minority population of Trumbull County is expected to increase to approximately 42,000 persons by the year 2040. The total population is projected to decrease to approximately 214,000 persons. Thus by the year 2040, minorities can be expected to comprise nearly 20 percent of the total population.

Approximately 36,765 minority individuals and 27,618 low-income persons lived within 10 mi (16 km) of the Warren Depot in 2000. The nonminority population residing in the same area in 1990 was approximately 205,449 persons. Figure G-9 shows the cumulative percentage of these populations residing at a given distance from the Warren Depot in 2000. For example, Figure G-9 indicates that 50 percent of the total nonminority population and the low-income population lived within 6 mi (9.6 km) of the Warren Depot and outside of Youngstown. Percentages of the minority population increase most noticeably near the Warren Depot and again at the outskirts of Youngstown.

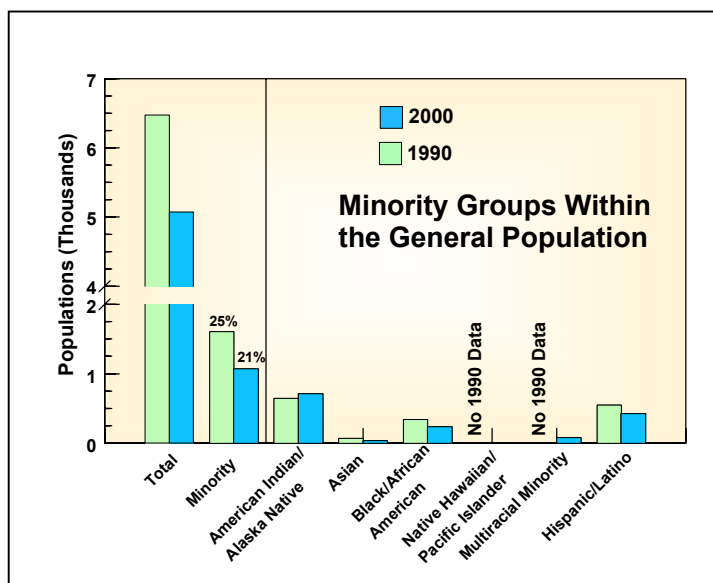


**Figure G-9. Populations Living Within 10 Miles of the Warren Depot in 1990**

### G.5.5 Hawthorne Army Depot

The Hawthorne Army Depot is located in Mineral County, Nevada, at latitude 38° 36' 43" north and longitude 118° 37' 36" west. It is approximately 8 mi (13 km) south of the Walker River Indian Reservation and 17 mi (27 km) east of the border between Nevada and California.

Figure G-10 shows populations residing in Mineral County as reported in the 1990 census and the 2000 census. In this figure, lightly shaded bars show populations in 1990, while the darker bars show those in 2000. In the decade between 1990 and 2000, the total population of Mineral County declined by approximately 22 percent, and the minority population decreased by approximately 4 percent. Among the minority populations, only the American Indian population increased during the last decade; all other minority populations declined. The 2000 census found that Blacks/African Americans and Hispanics/Latinos comprised nearly 96 percent of the total minority population.



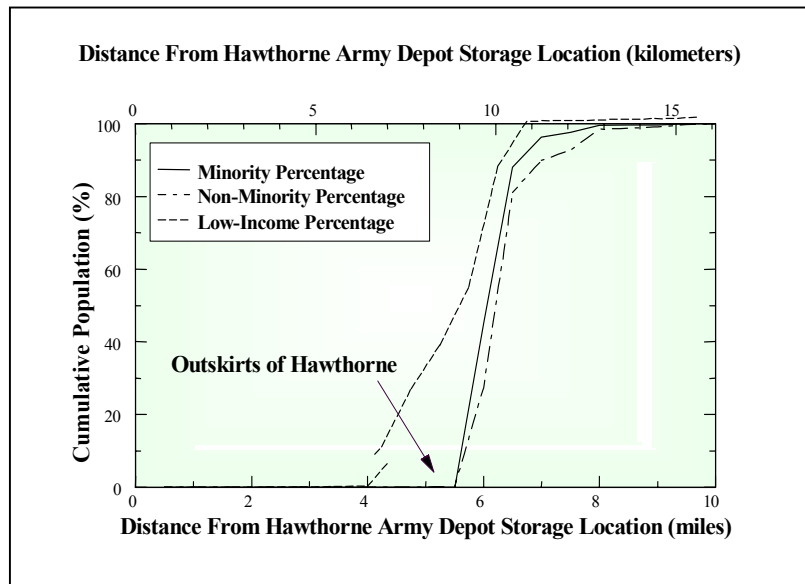
**Figure G-10. Populations Residing in Mineral County, Nevada, in 1990 and 2000**

Persons who declared that they are multiracial and not Hispanic were included in the minority population shown in Figure G-10 provided that they designated themselves as members of at least one minority race. They comprised approximately 7 percent of the total minority population residing in Mineral County in 2000.

The 2000 census was the first decennial census in which multi-racial selections were counted. As indicated in G-10, there is no data for this category available from the 1990 census. Also, during the 1990 census, Asian and Pacific Islander designations were placed together in a single category, whereas during the 2000 census, Native Hawaiians and Other Pacific Islanders were counted separately from Asian respondents. Therefore, direct comparison of 1990 census data and 2000 census data for these categories is not possible.

Assuming that the rate of decline for minority and nonminority populations of Mineral County observed between 1990 and 2000 is representative of the decline per decade for the decades following 2000, minority and nonminority populations are expected to nearly vanish by the year 2040.

Approximately 726 minority individuals (DOC 2001) and 360 low-income persons (DOC 2002) lived within 10 mi (16 km) of the Hawthorne Army Depot in 2000. The nonminority population residing in the same area was approximately 3,177 persons. Figure G-11 shows the cumulative percentage of these populations living at a given distance from the Hawthorne Army Depot. The population living within 10 mi (16 km) of the Hawthorne Army Depot is concentrated in the Town of Hawthorne. It would appear from the figure that the low-income population is more disperse than the minority and nonminority populations. However, this apparent dispersion is due to the fact that low-income data is aggregated at the block group level (there are six block groups in Mineral County), while racial and ethnic data is available at the block level of spatial resolution (there are 1,403 blocks in Mineral County) (DOC 2001, 2002).



**Figure G-11. Populations Living Within 10 Miles of the Hawthorne Army Depot**

### G.5.6 PEZ Lake Development

PEZ Lake Development is located on the Seneca Army Depot in Seneca County, New York, at latitude 42° 44' 30" north and longitude 76° 51' 46" west. It is approximately 35 mi (56 km) southwest of the Onondaga Indian Reservation.

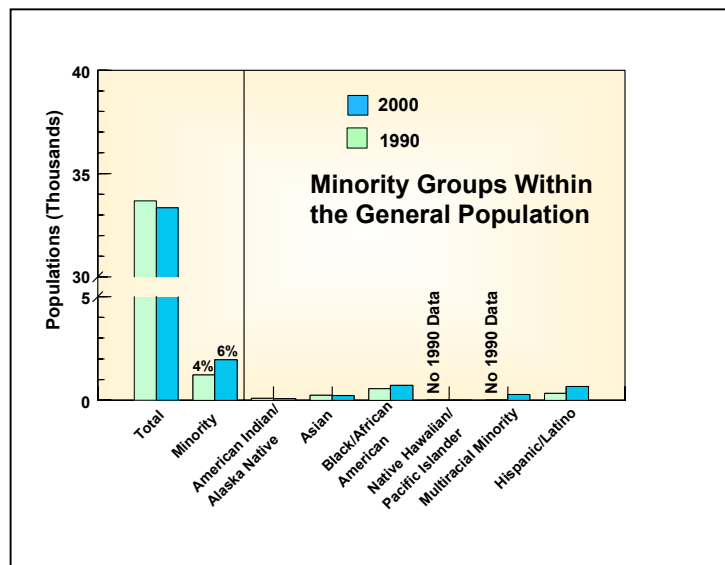
Figure G-12 shows populations residing in Seneca County as reported in the 1990 census and the 2000 census. In this figure, lightly shaded bars show populations in 1990, while the darker bars show those in 2000. In the decade between 1990 and 2000, the total population living in Seneca County declined by approximately 1 percent, and the minority population increased by approximately 2 percent. The 2000 census found that Black or African American, Asian, and Hispanic populations comprised

approximately 82 percent of the total minority population resident in Seneca County. Persons who declared that they are multiracial and not Hispanic or Latino were included in the minority population shown in Figure G-12 provided that they designated themselves as members of at least one minority race. They comprised approximately 14 percent of the total minority population residing in Seneca County in 2000.

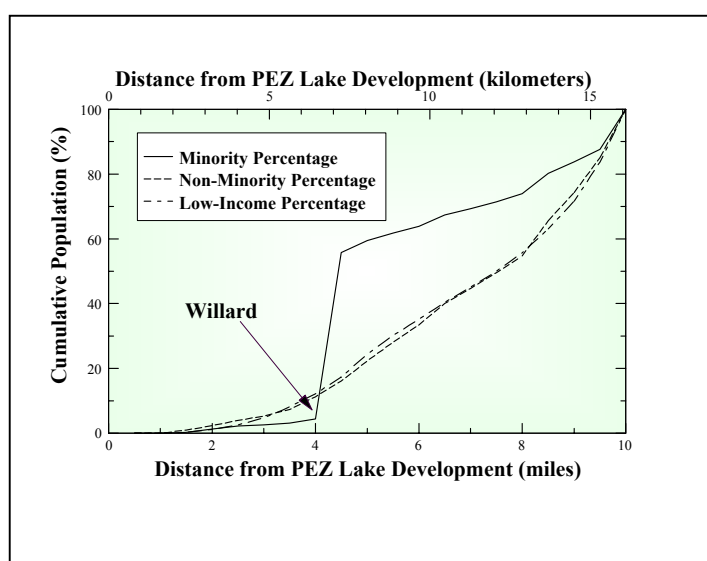
The 2000 census was the first decennial census in which multi-racial selections were counted. As indicated in Figure G-12, there is no data for this category available from the 1990 census. Also, during the 1990 census, Asian and Pacific Islander designations were placed together in a single category, whereas during the 2000 census, Native Hawaiians and Other Pacific Islanders were counted separately from Asian respondents. Therefore, direct comparison of 1990 census data and 2000 census data for these categories is not possible.

Assuming that the rate of increase for the minority population of Seneca County observed between 1990 and 2000 is representative of the increase per decade for the decades following 2000, the minority population of Seneca County is expected to increase to approximately 1,790 persons by the year 2040. The total population is projected to decrease to approximately 27,084 persons. Thus by the year 2040, minorities can be expected to comprise approximately 7 percent of the total population.

Approximately 1,333 minority individuals and 1,467 low-income persons lived within 10 mi (16 km) of PEZ Lake Development in 2000. The nonminority population residing in the same area in 1990 was approximately 14,867 persons. Figure G-13 shows the cumulative percentage of these populations residing at a given distance from PEZ Lake Development in 2000. The minority percentage shown in Figure G-13 increases sharply at the outskirts of the minority community of Willard, New York. Approximately 50 percent of the minority population living within 10 mi (16 km) of PEZ Lake Development is concentrated in Willard.



**Figure G-12. Populations Living in Seneca County, New York, in 1990 and 2000**



**Figure G-13. Populations Living Within 10 Miles of the PEZ Lake Development**

### G.5.7 Utah Industrial Depot

Utah Industrial Development is located on the Tooele Army Depot in Tooele County, Utah, at latitude 40° 1' 54" north and longitude 112° 20' 39" west. It is approximately 12 mi (19 km) northeast of the Skull Valley Indian Reservation.

Figure G-14 shows populations residing in Tooele County as reported in the 1990 census and the 2000 census. In this figure, lightly shaded bars show populations in 1990, while the darker bars show those in 2000. In the decade between 1990 and 2000, the total population living in Tooele County increased by approximately 50 percent, while the minority population increased by approximately 60 percent. The 2000 census found that Hispanic persons comprised approximately 70 percent of the total minority population resident in Seneca County. Persons who declared that they are multiracial and not Hispanic or Latino were included in the minority population shown in Figure G-14 provided they designated themselves as members of at least one minority race. They comprised approximately 9 percent of the total minority population residing in Seneca County in 2000. The 2000 census was the first decennial census in which multi-racial selections were counted. As indicated in Figure G-14, there is no data for this category available from the 1990 census. Also, during the 1990 census, Asian and Pacific Islander designations were placed together in a single category, whereas during the 2000 census, Native Hawaiians and Other Pacific Islanders were counted separately from Asian respondents. Therefore, direct comparison of 1990 census data and 2000 census data for these categories is not possible.

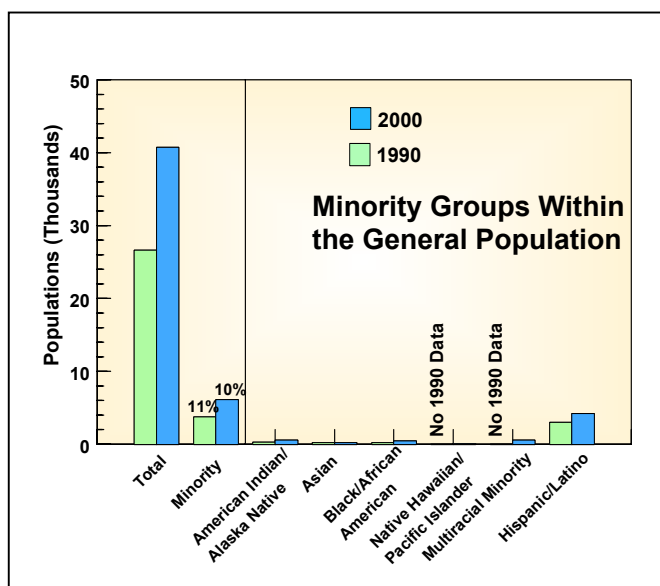


Figure G-14. Populations Living in Tooele County, Utah, in 1990 and 2000

Assuming that the rate of increase for the minority population of Tooele County observed between 1990 and 2000 is representative of the increase per decade for the decades following 2000, the minority population of Tooele County is expected to increase to approximately 15,709 persons by the year 2040. The total population is projected to increase to approximately 97,271 persons. By the year 2040, minorities can be expected to comprise approximately 16 percent of the total population.

Approximately 3,980 minority individuals and 1,853 low-income persons lived within 10 mi (16 km) of Utah Industrial Development in 2000. The nonminority population residing in the same area in 1990 was approximately 30,991 persons. Figure G-15 shows the

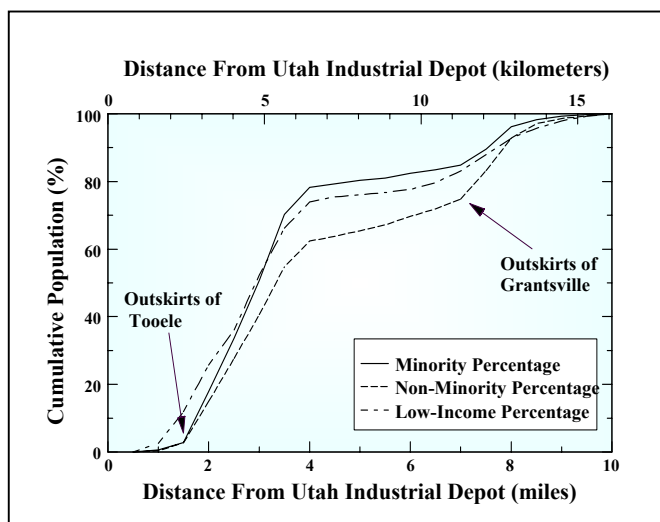


Figure G-15. Populations Living Within 10 Miles of the Utah Industrial Development

cumulative percentage of these populations residing at a given distance from Utah Industrial Development in 2000. Over 60 percent of the populations shown in the figure live within 4 mi (6.4 km) of the Utah Industrial Depot, primarily in Tooele, Utah.

## **G.6 IMPACTS OF THE ALTERNATIVES ON MINORITIES AND LOW-INCOME POPULATIONS**

As discussed in Chapter 4 of the MM EIS, none of the alternatives would be expected to have significant health impacts on minority or low-income populations surrounding candidate storage sites for the DNSC's mercury inventory. However, in the case of an onsite spill or transportation accident accompanied by fire, elemental mercury released in the atmosphere can be expected to remain airborne and transported beyond the immediate area of the release. Once deposited on the surface of water or soil, elemental mercury can be transformed by biological action into a more toxic form, methyl mercury. Methyl mercury represents a higher health risk to biota because it is more toxic than elemental or inorganic mercury and it bioaccumulates throughout the food chain. If fish or game contaminated with methyl mercury are ingested, they can cause serious health problems such as damage to the nervous system. Thus, airborne mercury released during an onsite or transportation accident with an accompanying fire poses a potential risk to American Indian populations or others who depend on subsistence fishing and hunting.

As discussed in the associated *Draft Human Health and Ecological Risk Assessment Report for the Mercury Management Environmental Impact Statement* (DLA 2003), the risk to the food chain can be expected to increase with transportation requirements under each alternative. The No Action Alternative offers the least risk of a transportation accident with accompanying fire, and implementation of the Sales Alternatives (Sale of Mercury at the Maximum Allowable Market Rate and Sale of Mercury to Reduce Mercury Mining) would result in the highest relative risk of contamination of the food chain. Due to uncertainties in potential location of the an accident, prevailing weather conditions at the time of the accident, and unknown biological characteristics of potential areas of deposition, this relative advantage or disadvantage among alternatives is suggestive but not decisive in the selection of environmental preferences among the alternatives.

## **G.7 REFERENCES**

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